Naval Facilities Engineering Systems Command Southwest
BRAC PMO West
San Diego, CA

Air Monitoring Summary Report
August 1 to August 31, 2021

Phase IV Non-Time Critical Removal Action, Solid Waste Disposal Area Westside, Installation Restoration Site 12
Former Naval Station Treasure Island
San Francisco, CA
October 2021

DCN: GLBN-0005-F5271-0016

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Prepared for:

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Naval Facilities Engineering Systems Command Southwest
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Contract Number: N62473-17-D-0005; Task Order No. N62473-18-F5271

Table of Contents

List of Figures

List of Tables

List of Attachments

Acronyms and Abbreviations

AMP	Air Monitoring Plan
BAAQMD	Bay Area Air Quality Management District
BAP(Eq)	benzo(a)pyrene equivalency
cfm	cubic feet per minute
CFR	Code of Federal Regulations
DAC	derived air concentration
DCP	Dust Control Plan
DTSC	Department of Toxic Substances Control
Gilbane	Gilbane Federal
HERO	Human and Ecological Risk Office
IR	Installation Restoration
mg/m^3	milligram per cubic meter
Navy	U.S. Department of the Navy
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PDR	personal data-logging real-time aerosol monitor
PM10	particulate matter less than 10 microns in diameter
PUF	polyurethane foam
Ra-226	radium-226
TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
TLV	threshold limit value
TSP	total suspended particulates
$\mu g/m^3$	microgram per cubic meter
USEPA	United States Environmental Protection Agency
Work Plan	*Final Work Plan, Phase IV Non-Time Critical Removal Action, Solid Waste Disposal Area Westside, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California*

1.0 Introduction

This Air Monitoring Report was prepared by Gilbane Federal (Gilbane) under the Radiological Multiple Award Contract (RADMAC II) N62473-12-D-D005, Contract Task Order N6247317F5271. Gilbane is performing dust and air monitoring at Former Naval Station Treasure Island in accordance with the Final Dust Control Plan (DCP) and Air Monitoring Plan (AMP), included as appendices to *Phase IV Non-Time Critical Removal Action Work Plan, Solid Waste Disposal Area Westside, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California* (Work Plan; Gilbane, 2021).

The DCP describes best management practices and procedures to be implemented to minimize dust generation during work activities. Dust monitoring is conducted to ensure that these procedures are effective. Dust monitoring is also conducted to verify that the working environment meets occupational health and safety standards and that workers are safe. The AMP outlines the requirements for prevention of exposure for construction workers to dust and potential airborne chemicals of concern from the work area. The AMP also establishes the conservative project action levels for dust at the work area boundary to protect residents.

This summary report describes the following:

- Dust and air monitoring sampling locations – **Section 2.0**,
- Dust and air monitoring sample collection and analytical methods – **Section 3.0**,
- Dust and air monitoring data – **Section 4.0**, and,
- Dust and air monitoring results – **Section 5.0**.

This summary report presents the dust and air monitoring test results at Installation Restoration (IR) Site 12 from August 1st through August 31st , 2021 and compares the results with the established action levels included in the Work Plan (Gilbane, 2021). During this reporting period, the Site 12 air monitoring stations (AMSW1 and AMSW2) operated on August, 2nd, 3rd, 4th, 5th, 9th, 10th ,11th, 12th, 16th, 17th, 18th, 19th, 20th, 23rd, 24th, 25th, 26th, 27th, 30th and 31st for earth-moving tasks involving potentially contaminated soil.

During the reporting period, personal data-logging real-time aerosol monitoring (PDR) dust data was collected. Air samples were collected and analyzed for lead, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), dioxin [2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)], total suspended particulates (TSP), and particulate matter less than 10 microns in diameter (PM10). In addition, air samples were analyzed for radiological gross alpha and beta levels.

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2.0 Monitoring Site Locations

2.1 Dust Monitoring

During earthmoving activities, several PDR stations are set up to monitor real-time airborne dust concentrations. The purpose of the PDR stations is to act as a first line of defense in protecting workers' health, and ultimately the public's health, during field activities. PDR stations are situated immediately adjacent to the current work area locations most likely to generate the greatest volume of airborne dust and are adjusted as necessary due to changes in wind direction and/or work location. Real-time dust monitoring ensures dust levels remain below action levels during fieldwork operations.

The general locations for dust monitors in IR Site 12 are shown on **Figure 1**. Specific locations of each PDR are described in the individual PDR daily data files. Field forms from each location are presented in **Attachment 1** of this report. During earth moving activities at IR Site 12 (i.e., transportation of excavated soil to the radiological screening yard, excavation, and backfilling), one PDR serves as the upwind (background) location (DMW7, DMW13, DMW16) and two PDRs are placed in downwind perimeter locations (DMW8, DMW9, DMW14, DMW15, DMW17, DMW18). Weather forecasts including wind direction are checked daily with a weather station located at Building 572. The weather station records temperature, pressure, wind speed and direction, etc., every 30 minutes, 24 hours per day. Wind speed is also monitored near the work site during soil excavation and handling to ensure that work is stopped if sustained winds over 25 miles per hour are encountered. No work stoppages due to sustained wind speed exceedances were required during this reporting period. Wind speed and direction data gathered during work hours for this reporting period, presented on a wind rose diagram in **Figure 2**, generally depict the wind blowing East-North-East at 7-12 miles/hour with gusts up to 18 miles/hour. Detailed weather data is not reported in this document but can be provided upon request.

2.2 Air Monitoring

Air monitoring samples collected using high volume samplers are collected to identify and quantify airborne contaminants and to confirm the results recorded during dust (PDR) monitoring. Air monitoring stations are mobilized to collect air monitoring samples upwind and downwind of work areas. General locations of the IR Site 12 air monitoring stations are shown on **Figure 1**. The locations of the air monitoring stations are determined based on the prevailing wind direction (typically from the southwest) and are modified as needed. A weather station is erected to monitor the wind direction.

High volume air monitoring stations remain stationary while sampling is being conducted; however, locations may be adjusted when the wind direction changes and when overall excavation work areas change from one location to another. Each upwind and

downwind high-volume monitoring station includes separate monitoring systems for the following:

- TSP - collected daily
- PM10 - collected daily
- Lead - collected daily
- PAHs, PCBs, and dioxin - collected on alternating days

2.3 Radiological Air Monitoring

Radiological air samplers are positioned adjacent to excavation work activities for radiologically impacted soil at one upwind and one downwind location during earthmoving activities associated with radiologically impacted soil. The radiological air samplers may be co-located with PDRs or the high-volume samplers.

3.0 Sampling and Analytical Methods

Dust and air samples are collected during earthmoving activities. However, during precipitation events, the dust and air monitoring units may not be operable. An attempt will be made to collect samples and readings regardless of the weather. If dust or air monitors are found to be malfunctioning or nonfunctional, earthmoving activities will stop until monitors can be repaired or replaced. The Site Health and Safety Officer is responsible for monitoring the air and dust monitoring sampling equipment. In rare cases, due to ancillary equipment malfunction such as generator failure during the night, a sample may be collected that represents a period of less than 24 hours. If this situation occurs, a note is added to the sample result data tables indicating why the full sampling period was not achieved. The field team per FCR 004 has continued running the air monitoring stations for work onsite, however, has initiated collecting the samples once intrusive activities have wrapped up for the final workday of each week resulting in a sampling period less than 24 hours.

3.1 Dust Samples

The PDR is a high sensitivity photometric monitor with a light-scattering sensing configuration that has been optimized for the measurement of the respirable fraction of airborne dust, smoke, fumes, and mists. PDRs are used to evaluate real-time monitoring of airborne dust concentrations, to determine if there is a need for additional dust control or personal protection.

3.2 Air Samples

Air samples were sampled in accordance with the United States Environmental Protection Agency (USEPA) reference sampling method for PM10, described in 40 Code of Federal Regulations (CFR) 50, Subpart J. Each sample was collected on a filter over an approximately 24-hour period; the filter was then weighed to determine the amount of PM10 collected.

TSP samples were collected with a high-volume (39 to 60 cubic feet per minute [cfm]) air sampler in accordance with USEPA's reference sampling method for TSP, described in Title 40 CFR, Part 50, Subpart B. Each sample was collected on a filter over an approximately 24-hour period; the filter was then weighed to determine the amount of TSP collected. Once the filter weight was determined, the sample was analyzed for lead in accordance with USEPA Method 6020 using inductively coupled mass spectrometry.

Air samples for PCBs, PAHs, and dioxin are collected and analyzed in accordance with USEPA Methods TO-4A, TO-13, TO-9A, respectively, using TISCH polyurethane (PUF) samplers. The filter media collected from the air samplers is submitted to the analytical laboratory for appropriate analysis.

PCB, PAH, and dioxin samples are collected on alternating days at the downwind and upwind stations during earthmoving activities.

3.3 Radiological Air Samples

Radiological air monitoring is also conducted upwind and downwind on days of earthmoving activities. Radiological samples are collected with a LV-1 low volume air sampler. Air filters are counted on site following a decay period and are compared with public air concentration limits published in 10 CFR Part 20. Radiological air sampling methods and procedures are detailed in Gilbane Radiological Procedure PR-RP-150 *Radiological Survey and Sampling* (Gilbane, 2016).

The radiological air sample is counted on a Low Background Protean WPC-9950 and analyzed for gross alpha and beta activity. The calculated airborne concentration in microcuries is then compared to the effluent concentration (often but incorrectly refer to as a derived air concentration [DAC] which applies only to occupational exposures) limit specified in Table 2 of Appendix B to 10 CFR 20. The effluent concentration is the concentration of a given radionuclide in air which, if inhaled continuously over the course of a year, results in an exposure equal to the annual regulatory limit specified in 10 CFR 20.1302. The threshold for radiological effluent air monitoring samples is 10 percent of the effluent concentration, which ensures work practices are evaluated and modified as necessary to ensure the limit is not reached.

4.0 Dust and Air Monitoring Data

The Human and Ecological Risk Office (HERO) at the request of the California Department of Toxic Substances Control (DTSC) developed dust action levels for community air monitoring for IR Site 12. Sub-chronic and chronic dust action levels as PM10 were calculated for lead, dioxin, benzo(a)pyrene (BAP) equivalency (Eq) by PAHs analysis, and PCBs. As presented in the document *Dust Action Levels for Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California* (HERO, 2018), the action levels were calculated using the maximum chemicals of concern soil concentrations at IR Site 12.

Based on HERO's recommendations, a PM10 dust action level of 50 microgram per cubic meter (ug/m^3) will be implemented for all excavation areas at IR Site 12. TSP is expected to be further controlled based on the limit employed for PM10, in accordance with guidance provided by the San Francisco Bay Area Air Quality Management District (BAAQMD), which estimates that PM10 makes up approximately 55 percent of TSP. If it is apparent that project activities are the cause of exceedances, additional control measures will be considered and implemented.

Dust monitoring action levels that are implemented on a real-time basis are listed in **Table 1**. PDR data are collected and reviewed each day by the Site Health and Safety Manager. PDR data are included in **Attachment 1**.

Analytical results from air monitoring samples are compared with the project screening criteria (threshold limit values [TLV]) listed in **Table 2**. Air monitoring results are included in **Attachment 2**.

Table 1: Dust Monitoring Project Action Levels

Method	Monitoring Location	Monitoring Frequency [a]	Action Level [b]	Action
PDR	Near Workers' Breathing Zones (typically on equipment)	Periodically [c]	<2.0 mg/m^3 >2.0 mg/m^3	<2.0 mg/m^3 continue work in Level D. Increase dust control (i.e., apply water or other suppression method) and/or upgrade to Level C if concentrations >2.0 mg/m^3.
	Job Site Perimeter	Continuously	<1.0 mg/m^3 >1.0 mg/m^3	Continue work. STOP work, apply water or other dust suppression methods until levels decrease below 1.0 mg/m^3

Notes:

Only the Health and Safety Manager is authorized to downgrade levels of personal protective equipment.

a Frequency of air monitoring may be adjusted by the project Certified Industrial Hygienist after sufficient characterization of site contaminants has been completed, tasks have been modified, or site controls have proven effective.

b Five readings exceeding the action level in any 15-minute period or a sustained reading exceeding the action level for five minutes will trigger a response. Action levels represent airborne particulate concentrations in excess of background particulate concentrations.

c PDR will be monitored a minimum of three times a day.

< less than

> greater than

mg/m^3 milligrams per cubic meter

PDR personal data-logging real-time aerosol monitor

Table 2: Air Monitoring Project Screening Criteria

Chemicals of Concern	Project Screening Criteria (Threshold Limit Value) µg/m^3	Basis
Lead	1,575	TI Site 12 Subchronic Dust Action Level
TSP	50	TI Site 12 Dust Action Level
PM10	50	BAAQMD Ambient Air Quality Standard
BAP(Eq)	55,330	TI Site 12 Chronic Dust Action Level
PCBs[a]	NA	TI Site 12 Dust Action Level
Dioxin[a]	1E+07	TI Site 12 Chronic Dust Action Level
Radiological (Ra-226)	10% of DAC[c]	Occupational and public air concentration limits for Ra-226 published in 10 Code of Federal Regulations Part 20.

Notes:

a The dust action level was increased by a factor of 10 to account for the short-term duration of the project relative to the lifetime assumptions incorporated into the toxicity criteria and exposure assumption.

b BAP(Eq) action level will be ~55 mg/m^3 for all excavations

c Public air concentration limits are commonly referred to as DAC, but are actually Effluent Concentrations from Table 2 for 10 CFR Part 20.

BAAQMD	Bay Area Air Quality Management District
BAP(Eq)	benzo(a)pyrene equivalency
DAC	derived air concentration
mg/m^3	milligrams per cubic meter
PCBs	polychlorinated biphenyls
PM10	particulate matter smaller than 10 microns in diameter
Ra-226	radium-226
TSP	total suspended particulates
µg/m^3	micrograms per cubic meter

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5.0 Air Monitoring Results

If dust (PDR) monitoring equipment alarms, the source of exceedance will be determined by evaluating both upwind and downwind dust (PDR) sample locations. If the difference between upwind and downwind concentrations is greater than the action level for a sustained period of 15 minutes, then earthmoving activities will be halted until dust control measures are implemented. These may include, but are not limited to, adding water to the work area during earth moving tasks, evaluation of alternate work procedures or equipment, and/or cessation of the activity that is creating the dust until the PDR readings are below the screening criteria.

PDR summary results are presented in **Attachment 1**. Weather information (including ambient pressure and temperature data) and high-volume air monitoring sample results are presented in Attachment 2. Weather information was collected from the weather station at Building 572, Avenue M, Treasure Island, San Francisco, California. Radiological air monitoring results are presented in **Attachment 3**.PM10 analytical results from August 2021 did not exceed the project-specific screening criteria presented in **Table 2-2**.

TSP analytical results from August 2021 are presented in **Table 2-3**. The following details any exceedances that occurred during the August reporting period and the appropriate mitigation measures taken:

- A one-day exceedance of the AMSW2 TSP screening criteria was recorded on August 12th at 108.85 ug/m3. However, the associated PM10 reading (3 ug/m3) and downwind PDR monitors (0.000/-0.006) were below project limits. The appropriate parties were notified when the contractor received these results and the field crew continues to maintain persistent dust control measures.

There were no exceedances recorded for the PDR results on the corresponding dust monitoring days in August 2021. The field PDR data sheets are found in **Attachment 1**.

- On August 20th, PDR readings were observed above project screening criteria, however, the delta between the upwind and downwind monitors remained below action levels. These levels were detected during site setup and prior to any intrusive or earth moving activities beginning. The field team documented smoky conditions from nearby wildfires along with a thick low hanging marine layer/fog within the area.

Metals (lead), PAHs, total PCBs, and dioxin analytical results from August 2021, did not exceed the project-specific screening criteria presented in **Table 2**.

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6.0 References

Gilbane, 2016. *Radiological Procedure PR-RP-150 Radiological Survey and Sampling*. January.

Gilbane, 2021. *Phase IV Non-Time Critical Removal Action Work Plan, Solid Waste Disposal Area Westside, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California*. March.

Gilbane, 2021. *Phase IV Non-Time Critical Removal Action Work Plan, Air Monitoring Plan, Solid Waste Disposal Area Westside, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California*. March.

Gilbane, 2021. *Phase IV Non-Time Critical Removal Action Work Plan, Dust Control Plan, Solid Waste Disposal Area Westside, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California*. March.

HERO, 2018. *Dust Action Levels for Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California. September*.

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FIGURES

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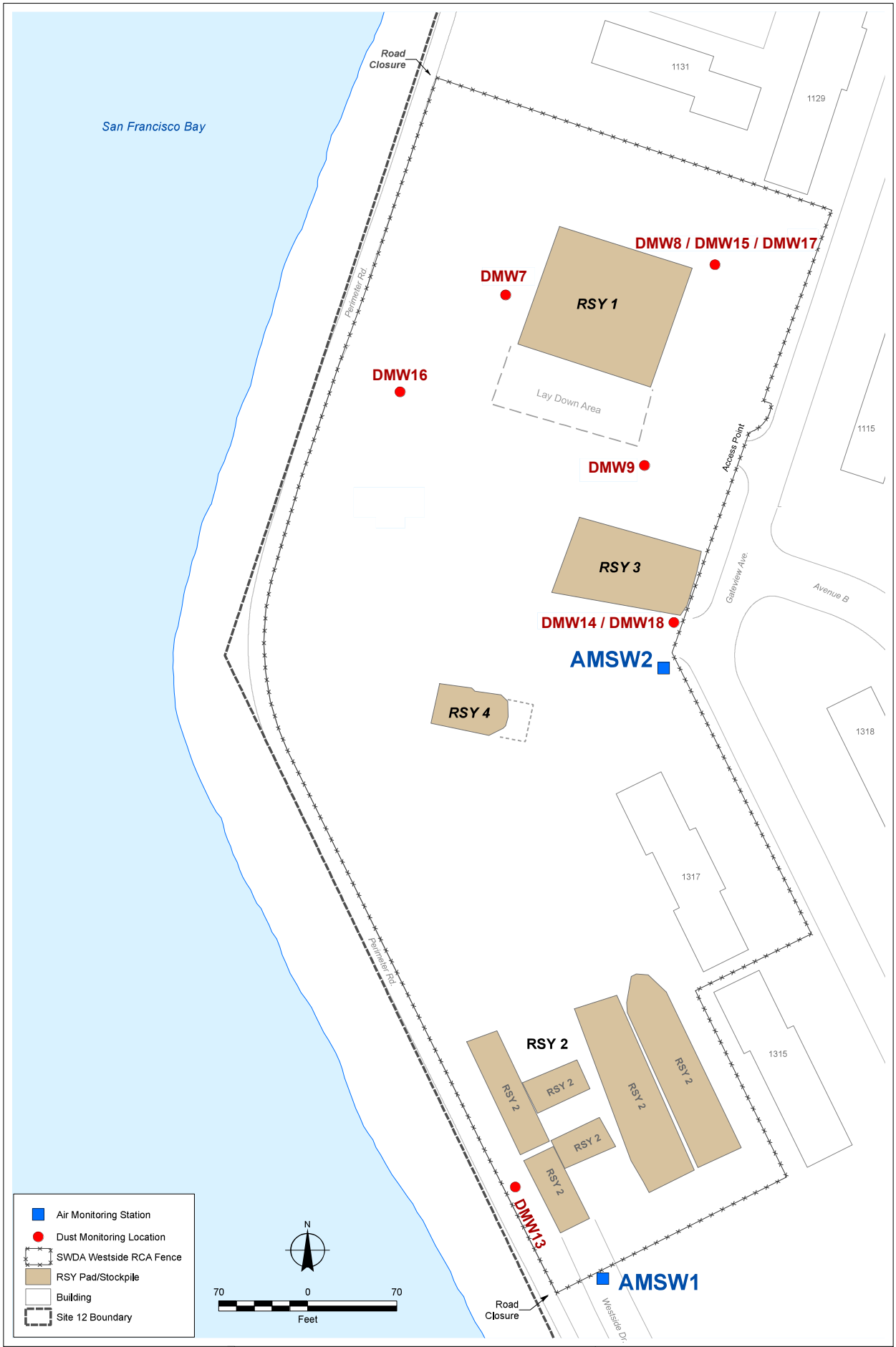

Air Monitoring Report
Phase IV Non-Time Critical Removal Action
Solid Waste Disposal Area Westside, IR Site 12
Former Naval Station Treasure Island
San Francisco, CA

Figure 1

Dust and Air Monitoring Locations IR Site 12
SWDA Westside

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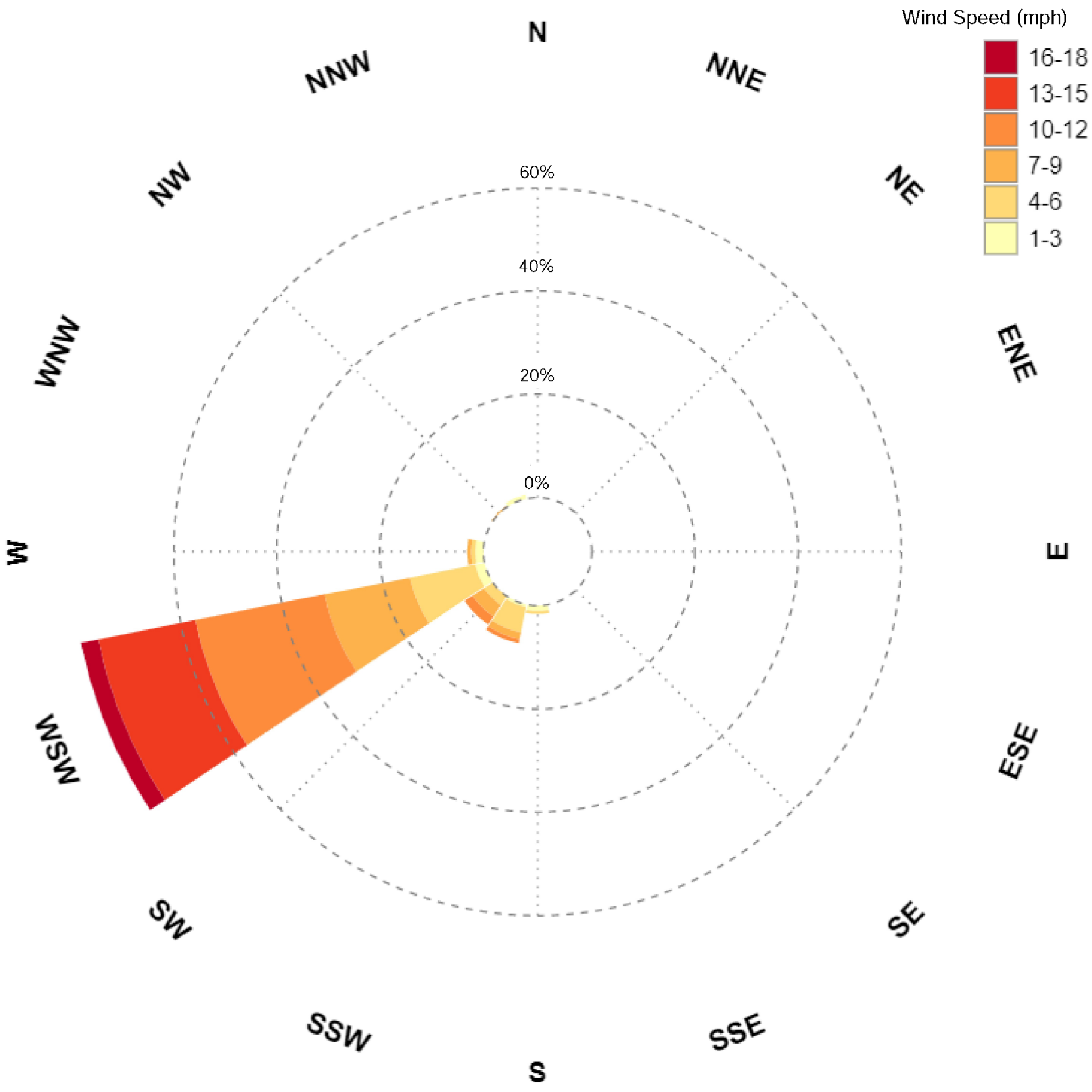

Air Monitoring Report
Phase IV Non-Time Critical Removal Action
Solid Waste Disposal Area Westside, IR Site 12
Former Naval Station Treasure Island
San Francisco, CA

Figure 2

Wind Rose
IR Site 12 SWDA Westside

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ATTACHMENT 1
PDR SUMMARY TABLE AND FIELD FORMS
(Provided on CD)

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Gilbane

AIR MONITORING LOG

Client Name NAVFAC

Date 8/2/21

Project No. J310000300

Page 1 of 1

Logged by Logan Schwing

Weather 55°F-69°F. Sunny

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	•UW RSY 2 Soil at Pad 1 laydown area	0.005	2845	Setup/Prep
↓	DMW8	•DW RSY 2 Soil at Pad 1 laydown area	0.011	2726	
↓	DMW9	•DW RSY 2 Soil at Pad 1 laydown area	0.009	2341	
1240	DMW7		0.006		•UXO team on lunch
↓	DMW8		0.006		•Able to go into zone without stopping work
↓	DMW9		0.008		
1700	DMW7		0.008		•Tasks wrapping up for today.
↓	DMW8		0.009		
↓	DMW9		0.011		

LSS 8/2/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/3/21

Project No. J310000300 Page 1 of 1

Logged by Logan Schwing

Weather 53°F - 63°F. partly cloudy. Early morning Fog.

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0755	DMW7	DW RSY2 soil at pad 1	0.010	2845	•mobilize •non-intrusive
↓	DMW8	DW RSY2 soil at pad 1	0.012	2726	
↓	DMW9	DW RSY2 spoil at pad 1	0.014	2341	
1300	DMW7		0.007		•Team on lunch
↓	DMW8		0.010		
↓	DMW9		0.009		
1700	DMW7		0.009		•Site Secured
↓	DMW8		0.012		•non-intrusive as of wraps up.
↓	DMW9		0.013		

LSS 8/3/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/4/21

Project No. J310000300 Page 1 of 1

Logged by Logan Schwing

Weather 52°F - 63°F. Mostly cloudy.

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	DW Pad 1, RSY2 Soil	0.005	2845	Site Prep/Setup
↓	DMW8	DW Pad 1, RSY2 Soil	0.013	2341	
↓	DMW9	DW Pad 1, RSY2 Soil	0.010	2726	
1300	DMW7		0.006		Lunch
↓	DMW8		0.012		
↓	DMW9		0.008		
1700	DMW7		0.008		Op wrapping up for today.
↓	DMW8		0.019		
↓	DMW9		0.012		

LSS 8/4/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/5/21

Project No. J310000300 Page 1 of 1

Logged by Logan Schwing

Weather 53°F - 64°F. Morning drizzle/rain, Cloudy

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0600	DMW7	•DW stockpiling RSY2 Soil	0.002	2845	•setup/prep
↓	DMW8	•DW stockpiling RSY2 Soil	0.007	2726	note: drizzle/rain could alter true readings.
↓	DMW9	•DW stockpiling RSY2 Soil	0.005	2341	
1130	DMW7		0.006		
↓	DMW8		0.012		
↓	DMW9		0.007		
1155	DMW13	•DW hauling RSY2 Soil to Pad 1	0.006	2845	•moved dust sticks.
↓	DMW14	•DW hauling RSY2 Soil to Pad 1	0.010	2341	
↓	DMW15	•DW hauling RSY2 Soil to Pad 1	0.008	2726	
1700	DMW13		0.008		
↓	DMW14		0.013		
↓	DMW15		0.011		

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/9/21

Project No. J310000300 Page 1 of 1

Logged by Logan Schwing

Weather 55°F-70°F . Sunny.

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW13	•DW haul Rd #2 Soil to pad 1	0.012	2341	•Prep set up
↓	DMW14	•DW haul Rd #2 Soil to pad 1	0.019	2726	
↓	DMW15	•DW haul Rd #2 Soil to pad 1	0.015	2845	
1115	DMW13		0.015		• Break (team UXO)
↓	DMW14		0.022		
↓	DMW15		0.023		
1325	DMW7		0.017	2341	•UXO Screening
↓	DMW8		0.030	2845	
↓	DMW9		0.026	2726	
1700	DMW7		0.014		•Pp wrapping up for day.
↓	DMW8		0.020		
↓	DMW9		0.029		

LS 8/9/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/10/21

Project / No. T.I. Westside Phase IV NTCRA / J310000800 Page 1 of 1

Logged by TOM

Weather 59-69°F Cloudy in AM

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0740	DMW7	UP Wind of UXO clear laydown RSY	0.022	2845	Laydown pad of RSY 2 lot 25
↓	DMW8	Pad 2 Down Wind	0.017	2726	
↓	DMW9	Down Wind	0.026	2341	
1040	DMW7		0.027		UXO break
↓	DMW8		0.023		
↓	DMW9		0.021		
1315	DMW7		0.024		UXO taking lunch
↓	DMW8		0.020		
↓	DMW9		0.025		
1600	DMW7		0.027		
↓	DMW8		0.023		
↓	DMW9		0.025		

TK

8/10/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/11/21

Project No. J310000300 Page 1 of 1

Logged by Logan Schwing

Weather 55°F-70°F. Sunny

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	DW UXO Screening RS42 Soil @ pad 1	0.019	2845	Team setting up
↓	DMW8	DW UXO Screening RS42 Soil @ pad 1	0.022	2341	Prep
↓	DMW9	DW UXO Screening RS42 Soil @ pad 1	0.021	2726	
1245	DMW7		0.024		Team on lunch.
↓	DMW8		0.030		Non-intrusive.
↓	DMW9		0.028		
1700	DMW7		0.030		Op wrapping up for day.
↓	DMW8		0.034		
↓	DMW9		0.029		

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/12/21

Project No. J310000300 Page 1 of 1

Logged by Logan Schwing

Weather 55°F - 66°F. Partly cloudy

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0750	DMW7	*UW screening RSP2 soil @ pad 1	0.012	2845	*Team prepping/setup
↓	DMW8	*DW screening RSP2 soil @ pad 1	0.016	2341	
↓	DMW9	*DW screening RSP2 soil @ pad 1	0.015	2726	
1245	DMW7		0.014		*Lunch.
↓	DMW8		0.019		*non-intrusive.
↓	DMW9		0.021		
1655	DMW7		0.012		*EOP finishing for day.
↓	DMW8		0.024		
↓	DMW9		0.020		

LSS 8/12/21

AIR MONITORING LOG

Client Name: NAVFAC   Date: 8-16-21

Project / No.: T.I. Westside Phase IV NTCRA / J310000800   Page ____ of ____

Logged by: [illegible signature]

Weather: Clear – light wind

Instrument Type: Dust Trak II

Calibration Standards Used: Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities Remarks
0733	DMW 7	OPW. Soil Screen	.006	2726	Team working Lot 25
↓	DMW 8 (DW.)	Hauling Soil RCS 42	.001	2341	Cont. New RSO
↓	DMW 9 (DW)	Screening Leeward	.008	2845	↓
1152	DMW 7		.023		↓
	DMW 8		.019		↓
1645	DMW 9		.010		
↓	DMW 7		.000		End of Shift
↓	DMW 8		.041		↓
↓	DMW 9		.008		↓

Not Used ZC

AIR MONITORING LOG

Client Name: NAVFAC Date: 8.17.21

Project / No.: T.I. Westside Phase IV NTCRA / N3100020600 Page: 1 of 1

Logged by: C. Clyde

Weather: Clear warm / Smoke in air

Instrument Type: Dust Trak II

Calibration Standards Used: Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities / Remarks
0755	DMW 7	UP wind of Lester Ct	.027	2724	UXO Screen/Start
↓	DMW 8	D.W. North Connex	.026	2854	↓
	DMW 9	D.W. South of Lester Ct	.026	2341	
1305	DMW7		.024	2724	Screen Lot 25
↓	DMW8		.022	2854	↓
	DMW9		.024	2341	X
1700	DMW7		.025		
↓	DMW8		.030		
	DMW9		.029		

CC 8/17/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC   Date 8/18/21

Project No. J310000300   Page 1 of 1

Logged by Logan Schwing

Weather 53°F - 65°F. Hazy. Visible wildfire smoke.

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	• UW RSY 2 Soil @ Pad 1	0.038	2845	• Smoke causing somewhat high readings. No activities as of now.
↓	DMW8	• DW RSY 2 Soil @ Pad 1	0.041	2726	
↓	DMW9	• DW RSY 2 Soil @ Pad 1	0.040	2341	
1330	DMW7		0.031		• mid-day readings
↓	DMW8		0.032		
↓	DMW9		0.035		
1700	DMW7		0.029		• op wrapping up for day.
↓	DMW8		0.038		
↓	DMW9		0.036		

LSS 8/18/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/19/21

Project No. J310000300 Page 1 of 1

Logged by Logan Schwing

Weather 57°F - 65°F. Sunny but hazy with smoke from wildfires

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	DW screening RSY 2 Soil @ pad 1	0.036	2845	• non-intrusive.
↓	DMW8	DW screening, RSY 2 Soil @ pad 1	0.035	2341	• smoke from wildfires causing elevated readings despite no activities as of yet.
↓	DMW9	DW screening RSY 2 Soil @ pad 1	0.032	2726	
1330	DMW7		0.029		
↓	DMW8		0.037		• mid-day
↓	DMW9		0.030		• smoky all day.
1700	DMW7		0.031		• of finishing for today
↓	DMW8		0.039		
↓	DMW9		0.035		

LSS 8/19/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/20/21

Project No. J310000300 Page 1 of 1

Logged by Logan Schwing

Weather 55°F - 62°F. Hazy from smoke also thick marine layer fog present.

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0745	DMW7	DW pad 1	0.047	2845	• no activities as of now however elevated readings present from extremely thick fog/marine layer/ wildfire smoke.
↓	DMW8	DW pad 1	0.051	2341	
↓	DMW9	DW pad 1	0.048	2726	
1315	DMW7		0.050		• team on lunch
↓	DMW8		0.055		• high readings due to fog. marine layer/smoke
↓	DMW9		0.056		Continue working.
1700	DMW7		0.045		• op wrapping up for today.
↓	DMW8		~~0.045~~ 0.045		• high readings not from
↓	DMW9		0.048		our site activities, weather/fires

LSS 8/20/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/23/21

Project No. J310000300 Page 1 of 1

Logged by Logan Schwing

Weather 53°F - 61°F, Cloudy, Fog

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	•OW Pad 1	0.018	2845	•Site prep/setup
↓	DMW8	•DW Pad 1	0.020	2341	
↓	DMW9	•DW pad 1	0.018	2726	
1100	DMW7		0.020		•Team prepping to move to RSY3 soil.
↓	DMW8		0.021		
↓	DMW9		0.021		•dust mon. tors moved to incorporate this operation
1400	DMW16	•OW RSY pad 3 material haul to pad 1	0.024	2845	•Team stopped while readings were collected.
↓	DMW17	•DW RSY pad 3 material haul to pad 1	0.033	2341	
↓	DMW18	•DW RSY pad 3 soil haul to pad 1	0.028	2726	
1700	DMW16		0.022		•OP wrapping up for day
↓	DMW17		0.030		
↓	DMW18		0.026		
		LSS	8/23/21		

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/24/21

Project No. J310000300 Page 1 of 1

Logged by Logan Schwing

Weather 53°F-63°F. Mostly cloudy, late pm Sun,

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW16	DW RSY 3 soil hauled to pad 1	0.024	2845	non-intrusive setup
↓	DMW17	DW RSY 3 soil hauled to pad 1	0.029	2341	
↓	DMW18	DW RSY 3 soil hauled to pad 1	0.026	2726	
1310	DMW16		0.025		Team on lunch.
↓	DMW17		0.022		
↓	DMW18		0.028		
1320	DMW7	Screening material DW @ pad 1	0.025	2845	Dustrak's moved. Team now going to be hand screening material
↓	DMW8	DW screening soil @ pad 1	0.032	2341	
↓	DMW9	DW screening soil @ pad 1	0.026	2726	
1700	DMW7		0.021		Op finishing for today.
↓	DMW8		0.037		
↓	DMW9		0.024		

LS 8/24/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/25/21

Project No. J310000300 Page 1 of 1

Logged by Logan Schwing

Weather 53°F - 62°F. cloudy.

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	UW screening Day3 soil @pad1	0.022	2845	• prep/setup/mob.ize.
↓	DMW8	• DW UXO screening soil @ pad1	0.027	2726	
↓	DMW9	• DW UXO screening soil @pad1	0.026	2341	
1325	DMW7		0.025		• team on lunch
↓	DMW8		0.035		• non-intrusive
↓	DMW9		0.030		
1700	DMW7		0.028		• op finishing up for day.
↓	DMW8		0.033		
↓	DMW9		0.036		

LS 8/25/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/26/21

Project No. J310000300 Page 1 of 1

Logged by T.GK

Weather Slightly Cloudy 55°-65°F

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	UXO Screening Upwind	0.021	2845	Screen at BSI / Lot 27
↓	DMW8	UXO screen downwind	0.020	2726	
↓	DMW9	downwind	0.025	2341	
1330	DMW7		0.026		
↓	DMW8		0.030		
↓	DMW9		0.031		
1630	DMW7		0.029		
↓	DMW8		0.032		
↓	DMW9		0.034		

Tom 8/26/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/27/21

Project No. J310000300 Page 1 of 1

Logged by TGR

Weather Slightly Cloudy 59 - 73°F

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW 7	UXO screening Upwind	0.026	2845	screen at RSY Lot 27
↓	DMW 8	UXO screening Downwind	0.025	2726	
↓	DMW9	UXO screening downwind.	0.030	2341	
1300	DMW 7		0.027		
↓	DMW8		0.030		
↓	DMW9		0.032		
~~1400~~ 1600	DMW 7		0.033		
↓	DMW8		0.035		
↓	DMW9		0.032		

TR 8/27/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/30/2021

Project No. J310000300 Page 1 of 1

Logged by TGR/LS

Weather Overcast 55° - 72°F Fog in the morning

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	upwind UXO clear RSY	0.035	2845	overcast/fog
↓	DMW8	Downwind UXO clear RSY	0.040	2726	• Causing somewhat high readings with no work being performed.
↓	DMW9	Downwind UXO clear RSY	0.041	2341	
1315	DMW7		0.041		• team on lunch
↓	DMW8		0.043		• non-intrusive
↓	DMW9		0.040		
1700	DMW7		0.037		• tasks wrapping up for day
↓	DMW8		0.042		
↓	DMW9		0.038		

LS 8/30/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 8/31/21

Project No. J310000300 Page 1 of 1

Logged by Logan Schwing

Weather 53°F - 62°F. Morning Fog. Sunny @10 AM

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	•DW UXO Screening RSY3 Soil @ pad 1	0.036	2845	•Non intrusive •no activities as of yet.
↓	DMW8	•DW UXO Screening RSY3 Soil @ pad 1	0.038	2726	
↓	DMW9	•DW UXO Screening RSY3 Soil @ pad 1	0.040	2341	•monitors moved just before lunch.
1300	DMW16	•DW RSY3 Soil hauled to pad 1	0.031	2845	•Team on lunch.
↓	DMW17	•DW RSY3 Soil hauled to pad 1	0.035	2726	
↓	DMW18	•DW RSY3 Soil hauled to pad 1	0.035	2341	
1700	DMW16		0.029		•Of finishing up for today
↓	DMW17		0.034		
↓	DMW18		0.038		

LSS 8/31/21

ATTACHMENT 2

SUMMARY OF AIR MONITORING AND AIR SAMPLING RESULTS

(Provided on CD)

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Table 2-1: Ambient Pressure and Temperature Monitoring Results

Sample Date	Ambient Pressure (inches of Hg)	Ambient Temperature (°F)	Ambient Temperature (°K)
8/3/2021	30.01	59.52	288.44
8/4/2021	29.93	57.46	287.29
8/5/2021	29.93	59.01	288.16
8/6/2021	29.98	59.83	288.61
8/10/2021	29.86	60.27	288.86
8/11/2021	29.89	59.48	288.42
8/12/2021	29.92	60.04	288.73
8/13/2021	29.94	62.34	290.01
8/17/2021	29.74	62.52	290.11
8/18/2021	29.74	61.21	289.38
8/19/2021	29.84	61.29	289.42
8/20/2021	29.83	61.20	289.37
8/21/2021	29.83	61.41	289.49
8/24/2021	29.84	59.27	288.30
8/25/2021	29.91	58.92	288.11
8/26/2021	29.95	59.17	288.24
8/27/2021	29.83	62.16	289.91
8/28/2021	29.73	68.55	293.46
8/31/2021	29.68	60.38	288.92

Notes:

Weather data collected from weather station at Building 572, Avenue M, Treasure Island, San Francisco, CA

°F = Degrees Fahrenheit

Hg = mercury

°K = Degrees Kelvin

Table 2-2: Particulate Matter Smaller than Ten Microns (PM10)

Location ID	Sampling Period (Hours)	Sample Date	Particulate Matter Less Than 10 Microns in Diameter (ug/m^3)	Delta between Downwind and Upwind Stations (ug/m^3)	PM10 Exceedance? (Yes/No)
Screening Criteria					**50**
AMSW1	23.76	08/03/2021	6.8	No	NA
	23.92	08/04/2021	6.8	No	NA
	24	08/05/2021	3.6	No	NA
	8.41	08/05/2021	4.9	No	NA
	21.64	08/10/2021	20	No	NA
	24.5	08/11/2021	14	No	NA
	22.45	08/12/2021	13	No	NA
	7.88	08/12/2021	15	No	NA
	24.57	08/17/2021	23	No	NA
	24.43	08/18/2021	31	No	NA
	23.88	08/19/2021	23	No	NA
	22.74	08/20/2021	20	No	NA
	7.71	08/20/2021	17	No	NA
	23.39	08/24/2021	16	No	NA
	24.18	08/25/2021	15	No	NA
	24.41	08/26/2021	20	No	NA
	21.44	08/27/2021	21	No	NA
	8.55	08/27/2021	30	No	NA
	23.98	08/31/2021	30	No	NA
AMSW2	23.86	08/03/2021	11	4.2	No
	23.9	08/04/2021	9.6	2.8	No
	23.95	08/05/2021	4.8	1.2	No
	8.46	08/05/2021	10	5.1	No
	22.18	08/10/2021	23	3	No
	24.03	08/11/2021	17	3	No
	22.42	08/12/2021	16	3	No
	7.69	08/12/2021	49	34	No
	25	08/17/2021	43	20	No
	24.27	08/18/2021	40	9	No
	23.87	08/19/2021	24	1	No
	20.06	08/20/2021	12	-8	No
	7.45	08/20/2021	14	-3	No
	23.69	08/24/2021	24	8	No
	23.98	08/25/2021	18	3	No
	24.53	08/26/2021	29	9	No
	21.55	08/27/2021	35	14	No
	8.38	08/27/2021	47	17	No
	24.11	08/31/2021	41	11	No

Notes:

ug/m3 = micrograms per cubic meter

NA = Not applicable

PM10 = particulate matter less then 10 microns in diameter

* = generator/sampler malfunction

Table 2-3: Total Suspended Particulates Monitoring Results

Location ID	Sampling Period (Hours)	Sample Date	Total Suspended Particulate (ug/m^3)	Delta Between Downwind and Upwind Stations (ug/m^3)	TSP Exceedance? (Yes/No)
Screening Criteria					**50**
AMSW1	23.79	08/03/2021	14.3831	NA	NA
	23.92	08/04/2021	10.9763	NA	NA
	24.0	08/05/2021	8.1031	NA	NA
	8.42	08/05/2021	11.2965	NA	NA
	21.65	08/10/2021	26.4242	NA	NA
	24.52	08/11/2021	18.7994	NA	NA
	22.46	08/12/2021	18.716	NA	NA
	7.89	08/12/2021	24.4192	NA	NA
	24.57	08/17/2021	35.8473	NA	NA
	24.45	08/18/2021	50.7929	NA	NA
	23.88	08/19/2021	37.9208	NA	NA
	22.74	08/20/2021	36.1937	NA	NA
	7.69	08/20/2021	32.076	NA	NA
	23.41	08/24/2021	25.7129	NA	NA
	24.2	08/25/2021	22.225	NA	NA
	24.41	08/26/2021	33.384	NA	NA
	21.44	08/27/2021	30.2593	NA	NA
	8.54	08/27/2021	44.7291	NA	NA
	23.99	08/31/2021	39.8143	NA	NA
AMSW2	23.84	08/03/2021	18.6106	4.2275	No
	23.91	08/04/2021	17.6092	6.6329	No
	23.95	08/05/2021	10.1059	2.0028	No
	8.46	08/05/2021	21.219	9.9225	No
	22.18	08/10/2021	35.2733	8.8491	No
	24.07	08/11/2021	21.9893	3.1899	No
	22.42	08/12/2021	22.1488	3.4328	No
	7.7	08/12/2021	133.2694	**108.8502**	Yes
	25	08/17/2021	72.5928	36.7455	No
	24.32	08/18/2021	58.9458	8.1529	No
	23.88	08/19/2021	51.0421	13.1213	No
	22.78	08/20/2021	53.7602	17.5665	No
	7.49	08/20/2021	45.2912	13.2152	No
	23.69	08/24/2021	37.9109	12.198	No
	23.98	08/25/2021	26.4981	4.2731	No
	24.53	08/26/2021	51.8483	18.4643	No
	21.54	08/27/2021	79.3727	49.1134	No
	8.37	08/27/2021	94.4212	49.6921	No
	24.12	08/31/2021	56.303	16.4887	No

Notes:

J = estimated value

ug/m^3 = micrograms per cubic meter

NA = Not applicable

TSP = total suspended particulate

bold = results above screening criteria

Table 2-4: Lead by EPA 6020 Monitoring Results

Location ID	Sampling Period (Hours)	Sample Date	Lead (ug/m^3)	Lead Exceedance? (Yes/No)
Screening Criteria				**1,575**
AMSW1	23.76	08/03/2021	0.00058 J	No
	23.92	08/04/2021	0.00073 J	No
	24	08/05/2021	0.00046 J	No
	8.41	08/05/2021	0.0015 J	No
	21.64	08/10/2021	0.00063 J	No
	24.5	08/11/2021	0.00086	No
	22.45	08/12/2021	0.00054 J	No
	7.88	08/12/2021	0.002 J	No
	24.57	08/17/2021	0.00066 J	No
	24.43	08/18/2021	0.00072	No
	23.88	08/19/2021	0.00066 J	No
	22.74	08/20/2021	0.0014	No
	7.71	08/20/2021	0.0026	No
	23.39	08/24/2021	0.00044 J	No
	24.18	08/25/2021	0.00051 J	No
	24.41	08/26/2021	0.00084	No
	21.44	08/27/2021	0.00067 J	No
	8.55	08/27/2021	0.0019 J	No
	23.98	08/31/2021	0.00097	No
AMSW2	23.86	08/03/2021	0.0045	No
	23.9	08/04/2021	0.0022	No
	23.95	08/05/2021	0.00092	No
	8.46	08/05/2021	0.0022	No
	22.18	08/10/2021	0.0013	No
	24.03	08/11/2021	0.0021	No
	22.42	08/12/2021	0.0024	No
	7.69	08/12/2021	0.011	No
	25	08/17/2021	0.0052	No
	24.27	08/18/2021	0.002	No
	23.87	08/19/2021	0.0022	No
	20.06	08/20/2021	0.0013	No
	7.45	08/20/2021	0.0042	No
	23.69	08/24/2021	0.0023	No
	23.98	08/25/2021	0.0014	No
	24.53	08/26/2021	0.0037	No
	21.55	08/27/2021	0.0035	No
	8.38	08/27/2021	0.0067	No
	24.11	08/31/2021	0.0029	No

Notes:

J = indicates an estimated value

ug/m^3 = micrograms per cubic meter
bold = results above screening criteria

Table 2-5: Polycyclic Aromatic Hydrocarbons by TO-13 Monitoring Results

Location ID	Sampling Period (Hours)	Sample Date	BAP(Eq) Exceed-ance? (Yes/No)	BAP(Eq)	2-Methyl-naph-thalene (ug/m^3)	Acenaph-thene (ug/m^3)	Acenaph-thylene (ug/m^3)	Anthracene (ug/m^3)	Benzo(a) anthracene (ug/m^3)	Benzo(a) pyrene (ug/m^3)	Benzo(b) fluoran-thene (ug/m^3)	Benzo(g,h,i) perylene (ug/m^3)	Benzo(k) fluoran-thene (ug/m^3)	Chrysene (ug/m^3)	Dibenz(a,h)anth racene (ug/m^3)	Fluoran-thene (ug/m3)	Fluorene (ug/m3)	Indeno (1,2,3-c,d) pyrene (ug/m3)	Naph-thalene (ug/m3)	Phenan-threne (ug/m3)	Pyrene (ug/m3)
Screening Criteria[1]				**55,330**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**
AMSW1	23.93	08/04/2021	No	0	< 0.0011	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	0.00067 J	0.00026 J	< 0.00054
	21.67	08/10/2021	No	0	< 0.0012	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	0.00034 J	< 0.00058	< 0.00058	0.00075 J	0.00041 J	0.00024 J
	7.87	08/12/2021	No	0	< 0.0031 UJ	0.00068 J-	< 0.0016 UJ	< 0.0016 UJ	< 0.0016 UJ	< 0.0016 UJ	< 0.0016 UJ	< 0.0016 UJ	< 0.0016	< 0.0016 UJ	< 0.0016 UJ	0.0014 J-	0.00069 J-	< 0.0016 UJ	< 0.0031	0.0019 J-	0.00098 J-
	23.89	08/19/2021	No	0	< 0.001	0.00028 J	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	0.00028 J	< 0.00052	< 0.00052	0.0011	0.00048 J	< 0.00052
	23.42	08/24/2021	No	0	< 0.001	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	0.00027 J	< 0.00052	< 0.00052	0.00091 J	0.00033 J	< 0.00052
	21.43	08/27/2021	No	0	0.00076 J	0.00031 J	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	0.00033 J	0.00023 J	< 0.00057	0.0018	0.00055 J	< 0.00057
AMSW2	23.91	08/04/2021	No	0	< 0.00093	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	0.0003 J	0.00021 J	< 0.00046	0.00058 J	0.00096	0.00019 J
	22.18	08/10/2021	No	0	< 0.00098	0.0002 J	< 0.00049	0.00024 J	< 0.00049	< 0.00049	< 0.00049	< 0.00049	< 0.00049	< 0.00049	< 0.00049	0.00051	0.00039 J	< 0.00049	0.00065 J	0.002	0.00032 J
	7.67	08/12/2021	No	0	< 0.0028	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0028	0.00099 J	< 0.0014
	23.88	08/19/2021	No	0	0.00048 J	0.00021 J	< 0.00045	< 0.00045	< 0.00045	< 0.00045	< 0.00045	< 0.00045	< 0.00045	< 0.00045	< 0.00045	0.00022 J	0.00021 J	< 0.00045	0.001	0.00074	< 0.00045
	23.7	08/24/2021	No	0	< 0.00089	< 0.00045	< 0.00045	< 0.00045	< 0.00045	< 0.00045	< 0.00045	< 0.00045	< 0.00045	< 0.00045	< 0.00045	0.00027 J	0.00023 J	< 0.00045	0.00084 J	0.00097	0.00018 J
	21.55	08/27/2021	No	0	0.00067 J	0.00031 J	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	< 0.00052	0.0004 J	0.00032 J	< 0.00052	0.0017	0.0013	0.00027 J

Notes:

[1] The dust action level was adjusted by a factor of 10 to account for the short-term duration of the project.

NA = Not applicable

NE = None established

BAP(Eq) = Benzo(a)pyrene equivalency

J = estimated value

ug/m^3 = micrograms per cubic meter

bold = results above screening criteria

< = nondetected less than associated reporting limit

Table 2-6: Polychlorinated Biphenyls by TO-4A Monitoring Results

Location ID	Sampling Period (Hours)	Sample Date	Total PCB Exceedance? (Yes/No)	Total PCB	PCB-1016 (Aroclor 1016) (ug/m^3)	PCB-1221 (Aroclor 1221) (ug/m^3)	PCB-1232 (Aroclor 1232) (ug/m^3)	PCB-1242 (Aroclor 1242) (ug/m^3)	PCB-1248 (Aroclor 1248) (ug/m^3)	PCB-1254 (Aroclor 1254) (ug/m^3)	PCB-1260 (Aroclor 1260) (ug/m^3)
Screening Criteria				**NE**							
AMSW1	24	08/05/2021	NA	0	< 0.00074	< 0.00074	< 0.00074	< 0.00074	< 0.00074	< 0.00074	< 0.00074
	24.52	08/11/2021	NA	0	< 0.00069	< 0.00069	< 0.00069	< 0.00069	< 0.00069	< 0.00069	< 0.00069
	24.97	08/17/2021	NA	0	< 0.00071	< 0.00071	< 0.00071	< 0.00071	< 0.00071	< 0.00071	< 0.00071
	22.74	08/20/2021	NA	0	< 0.00079	< 0.00079	< 0.00079	< 0.00079	< 0.00079	< 0.00079	< 0.00079 UJ
	24.2	08/25/2021	NA	0	< 0.00074	< 0.00074	< 0.00074	< 0.00074	< 0.00074	< 0.00074	< 0.00074
	8.54	08/27/2021	NA	0	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021
AMSW2	23.94	08/05/2021	NA	0	< 0.00064	< 0.00064	< 0.00064	< 0.00064	< 0.00064	< 0.00064	< 0.00064
	23.99	08/11/2021	NA	0	< 0.00065	< 0.00065	< 0.00065	< 0.00065	< 0.00065	< 0.00065	< 0.00065
	24.97	08/17/2021	NA	0	< 0.0006 UJ	< 0.0006 UJ	< 0.0006 UJ	< 0.0006 UJ	< 0.0006 UJ	< 0.0006 UJ	< 0.0006 UJ
	22.78	08/20/2021	NA	0	< 0.00068	< 0.00068	< 0.00068	< 0.00068	< 0.00068	< 0.00068	< 0.00068
	23.99	08/25/2021	NA	0	< 0.00064	< 0.00064	< 0.00064	< 0.00064	< 0.00064	< 0.00064	< 0.00064
	8.39	08/27/2021	NA	0	< 0.0019	< 0.0019	< 0.0019	< 0.0019	< 0.0019	< 0.0019	< 0.0019

Notes:

NA = Not applicable

NE = None established

PCB = polychlorinated biphenyl

ug/m^3 = micrograms per cubic meter

< = nondetected less than associated reporting limit

J = estimated value

* = sampler/generator malfunction

Table 2-7: Dioxin as 2,3,7,8-TCDD by TO-9A Monitoring Results

Location ID	Sampling Period (Hours)	Sample Date	2,3,7,8-Tetrachlorodibenzo-p-dioxin (ug/m^3)	Dioxin Exceedance? (Yes/No)
Screening Criteria				**10,000,000 ug/m^3**
AMSW1	23.78	08/03/2021	< 0.00000002	No
	8.42	08/05/2021	< 0.00000006	No
	22.47	08/12/2021	< 0.00000002	No
	24.46	08/18/2021	< 0.00000002	No
	7.63	08/20/2021	< 0.00000006	No
	24.43	08/26/2021	< 0.00000002	No
	23.98	08/31/2021	< 0.00000002	No
AMSW2	23.84	08/03/2021	< 0.00000002	No
	8.45	08/05/2021	< 0.00000005	No
	22.41	08/12/2021	< 0.00000002	No
	24.23	08/18/2021	< 0.00000002	No
	7.42	08/20/2021	< 0.00000006	No
	24.53	08/26/2021	< 0.00000002	No
	24.11	08/31/2021	< 0.00000002	No

Notes:

J = estimated value

ug/m^3 = micrograms per cubic meter

< = nondetected less than associated reporting limit

bold = results above screening criteria

ATTACHMENT 3
RADIOLOGICAL AIR MONITORING RESULTS
(Provided on CD)

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Gilbane

AIR SAMPLING EQUIPMENT

Project Information Effective as of: 17 Sep 2021

Contract / Task Order Number:	Project Title / Location:	Gilbane Project Number:
N62473-17-D-0005	IR Site 12 RD/RA, Treasure Island, SF, CA	J310000800

Perimeter/Effluent Air Sampling Equipment

Equip Number	Air Sampler Make/Model	Serial Number	Cal Due Date
PE01	LV-1	4532	5/20/21
PE02	LV-1	4360	5/20/21
PE03	LV-1	4352	4/20/22
PE04	LV-1	4300	4/20/22
PE05			
PE06			
PE07			
PE08			
PE09			
PE10			
PE11			
PE12			
PE13			
PE14			
PE15			
PE16			
PE17			
PE18			
PE19			
PE20			

Breathing Zone Air Sampling Equipment

Equip Number	Air Sampler Make/Model	Serial Number	Cal Due Date
BZ01	Escort Elf	12977	2/5/21
BZ02			
BZ03			
BZ04			
BZ05			
BZ06			
BZ07			
BZ08			
BZ09			
BZ10			
BZ11			
BZ12			
BZ13			
BZ14			
BZ15			
BZ16			
BZ17			
BZ18			
BZ19			
BZ20			

Sample Counting Instruments

Inst Number	Model Number	Serial Number	Cal Due Date	Count Time (min)		Background (cpm)[a]		Abs Ct Eff (cnts/dis)[b]		MDC (dpm/sample)[c]	
				Bkgrd	Source	Alpha	Beta	Alpha	Beta	Alpha	Beta
A	Protean	615068	9/15/21	1	1	0.0	1.1	0.352	0.355	15.4	29.0
B											
C											
D											
E											

Notes

[a] background values obtained from instrument set-up worksheet

[b] absolute counting efficiency = 4π efficiency calculated as ratio of measured count rate and contained activity [total dpm] of source (see IN-RP-141, *Alpha/Beta Scaler Instrument Set-Up and Operation*)

[c] MDC calculated using the Stapleton approximation (see IN-RP-141, *Alpha/Beta Scaler Instrument Set-Up and Operation)*

Gilbane

AIR SAMPLE RESULTS - PUBLIC EXPOSURE MONITORING

Project Information		
Contract / Task Order Number:	Project Title / Location:	Gilbane Project Number:
N62473-17-D-0005	IR Site 12 RD/RA, Treasure Island, SF, CA	J310000800
Information effective as of: 17 Sep 2021		

Effluent Air Concentration		
	Alpha	Beta
Radionuclide	Ra-226	Sr-90
Effluent Conc (µCi/ml)	9.E-13	6.E-12

Sampling Period
Air samples collected
between 22 Mar 2021
and 10 Sep 2021

Color Codes	
Value < MDC	Value < 0.1 x Effluent Conc
< 72 hr decay time	Value > 0.1 x Effluent Conc
Data reviewed	Value > Effluent Conc

Sample Collection									Count Information								Sample Results				Initials	
Sample Number	Sample Type	Sample Location	Equip No	Ave Flow Rate (lpm)	Start Day Time	End Date Time	Elapsed Time (min)	Volume (ml)	Inst No	Count Date	Time (min)	Counting Units	Gross Activity Alpha	Gross Activity Beta	Net dpm Alpha	Net dpm Beta	Activity (µCi/ml) Alpha	Activity (µCi/ml) Beta	*Effluent Conc (%) Alpha	*Effluent Conc (%) Beta	Count Tech	Data Reviewer
AS-0173	Perimeter	Upwind	PE03	60	8/2/21 7:45	8/2/21 16:58	553	3.3E+07	A	8/10/21	1	cpm	0.05	3.45	0.1	6.6	1.9E-15	9.0E-14	0.2%	1.5%	IH	CB
AS-0174	Perimeter	Downwind	PE04	60	8/2/21 7:40	8/2/21 16:49	549	3.3E+07	A	8/10/21	1	cpm	0.10	4.90	0.3	10.7	3.9E-15	1.5E-13	0.4%	2.4%	IH	CB
AS-0175	Perimeter	Upwind	PE03	60	8/3/21 7:25	8/3/21 17:15	590	3.5E+07	A	8/10/21	1	cpm	0.05	3.95	0.1	8.0	1.8E-15	1.0E-13	0.2%	1.7%	IH	CB
AS-0176	Perimeter	Downwind	PE04	60	8/3/21 7:30	8/3/21 17:08	578	3.5E+07	A	8/10/21	1	cpm	0.15	3.70	0.4	7.3	5.5E-15	9.5E-14	0.6%	1.6%	IH	CB
AS-0177	Perimeter	Upwind	PE03	60	8/4/21 7:30	8/4/21 17:00	570	3.4E+07	A	8/10/21	1	cpm	0.15	3.25	0.4	6.1	5.6E-15	8.0E-14	0.6%	1.3%	IH	CB
AS-0178	Perimeter	Downwind	PE04	60	8/4/21 7:01	8/4/21 17:11	610	3.7E+07	A	8/10/21	1	cpm	0.00	3.85	0.0	7.7	0.0E+00	9.5E-14	0.0%	1.6%	IH	CB
AS-0179	Perimeter	Upwind	PE03	60	8/5/21 7:10	8/5/21 17:30	620	3.7E+07	A	8/10/21	1	cpm	0.00	4.90	0.0	10.7	0.0E+00	1.3E-13	0.0%	2.2%	IH	CB
AS-0180	Perimeter	Downwind	PE04	60	8/5/21 7:00	8/5/21 17:25	625	3.8E+07	A	8/10/21	1	cpm	0.05	3.10	0.1	5.6	1.7E-15	6.8E-14	0.2%	1.1%	IH	CB
AS-0181	Perimeter	Upwind	PE03	60	8/9/21 7:30	8/9/21 16:40	550	3.3E+07	A	8/17/21	1	cpm	0.30	3.85	0.9	7.7	1.2E-14	1.1E-13	1.3%	1.8%	IH	CB
AS-0182	Perimeter	Downwind	PE04	60	8/9/21 7:35	8/9/21 16:51	556	3.3E+07	A	8/17/21	1	cpm	0.10	3.80	0.3	7.6	3.8E-15	1.0E-13	0.4%	1.7%	IH	CB
AS-0183	Perimeter	Upwind	PE03	60	8/10/21 7:43	8/10/21 16:40	537	3.2E+07	A	8/17/21	1	cpm	0.05	4.10	0.1	8.5	2.0E-15	1.2E-13	0.2%	2.0%	IH	CB
AS-0184	Perimeter	Downwind	PE04	60	8/10/21 7:38	8/10/21 16:48	550	3.3E+07	A	8/17/21	1	cpm	0.00	3.85	0.0	7.7	0.0E+00	1.1E-13	0.0%	1.8%	IH	CB
AS-0185	Perimeter	Upwind	PE03	60	8/11/21 7:35	8/11/21 17:05	570	3.4E+07	A	8/17/21	1	cpm	0.10	5.05	0.3	11.1	3.7E-15	1.5E-13	0.4%	2.4%	IH	CB
AS-0186	Perimeter	Downwind	PE04	60	8/11/21 7:45	8/11/21 16:55	550	3.3E+07	A	8/17/21	1	cpm	0.05	4.65	0.1	10.0	1.9E-15	1.4E-13	0.2%	2.3%	IH	CB
AS-0187	Perimeter	Upwind	PE03	60	8/12/21 7:35	8/12/21 17:10	575	3.5E+07	A	8/17/21	1	cpm	0.15	4.70	0.4	10.1	5.6E-15	1.3E-13	0.6%	2.2%	IH	CB
AS-0188	Perimeter	Downwind	PE04	60	8/12/21 7:33	8/12/21 17:08	575	3.4E+07	A	8/17/21	1	cpm	0.20	4.55	0.6	9.7	7.4E-15	1.3E-13	0.8%	2.1%	IH	CB
AS-0189	Perimeter	Upwind	PE03	60	8/16/21 7:20	8/16/21 17:13	593	3.6E+07	A	8/24/21	1	cpm	0.15	4.00	0.4	8.2	5.4E-15	1.0E-13	0.6%	1.7%	IH	CB
AS-0190	Perimeter	Downwind	PE04	60	8/16/21 7:15	8/16/21 17:20	605	3.6E+07	A	8/24/21	1	cpm	0.20	4.50	0.6	9.6	7.1E-15	1.2E-13	0.8%	2.0%	IH	CB
AS-0191	Perimeter	Upwind	PE03	60	8/17/21 7:35	8/17/21 17:10	575	3.5E+07	A	8/24/21	1	cpm	0.05	3.45	0.1	6.6	1.9E-15	8.6E-14	0.2%	1.4%	IH	CB
AS-0192	Perimeter	Downwind	PE04	60	8/17/21 7:30	8/17/21 17:00	570	3.4E+07	A	8/24/21	1	cpm	0.10	4.25	0.3	8.9	3.7E-15	1.2E-13	0.4%	1.9%	IH	CB
AS-0193	Perimeter	Upwind	PE03	60	8/18/21 7:38	8/18/21 17:15	577	3.5E+07	A	8/24/21	1	cpm	0.00	3.60	0.0	7.0	0.0E+00	9.2E-14	0.0%	1.5%	IH	CB
AS-0194	Perimeter	Downwind	PE04	60	8/18/21 7:30	8/18/21 17:10	580	3.5E+07	A	8/24/21	1	cpm	0.15	4.15	0.4	8.6	5.5E-15	1.1E-13	0.6%	1.9%	IH	CB
AS-0195	Perimeter	Upwind	PE03	60	8/19/21 7:30	8/19/21 17:00	570	3.4E+07	A	8/24/21	1	cpm	0.00	4.35	0.0	9.2	0.0E+00	1.2E-13	0.0%	2.0%	IH	CB
AS-0196	Perimeter	Downwind	PE04	60	8/19/21 7:38	8/19/21 17:15	577	3.5E+07	A	8/24/21	1	cpm	0.05	4.20	0.1	8.7	1.8E-15	1.1E-13	0.2%	1.9%	IH	CB
AS-0197	Perimeter	Upwind	PE03	60	8/20/21 7:25	8/20/21 17:27	602	3.6E+07	A	8/24/21	1	cpm	0.15	4.70	0.4	10.1	5.3E-15	1.3E-13	0.6%	2.1%	IH	CB
AS-0198	Perimeter	Downwind	PE04	60	8/20/21 7:31	8/20/21 17:32	601	3.6E+07	A	8/24/21	1	cpm	0.20	3.15	0.6	5.8	7.1E-15	7.2E-14	0.8%	1.2%	IH	CB
AS-0199	Perimeter	Upwind	PE03	60	8/23/21 7:23	8/23/21 17:30	607	3.6E+07	A	8/31/21	1	cpm	0.25	3.60	0.7	7.0	8.8E-15	8.7E-14	1.0%	1.5%	IH	CB
AS-0200	Perimeter	Downwind	PE04	60	8/23/21 7:15	8/23/21 17:37	622	3.7E+07	A	8/31/21	1	cpm	0.20	4.30	0.6	9.0	6.9E-15	1.1E-13	0.8%	1.8%	IH	CB
AS-0201	Perimeter	Upwind	PE03	60	8/24/21 7:15	8/24/21 17:01	586	3.5E+07	A	8/31/21	1	cpm	0.05	3.95	0.1	8.0	1.8E-15	1.0E-13	0.2%	1.7%	IH	CB
AS-0202	Perimeter	Downwind	PE04	60	8/24/21 7:10	8/24/21 17:15	605	3.6E+07	A	8/31/21	1	cpm	0.15	4.65	0.4	10.0	5.3E-15	1.2E-13	0.6%	2.1%	IH	CB
AS-0203	Perimeter	Upwind	PE03	60	8/25/21 7:38	8/25/21 17:15	577	3.5E+07	A	8/31/21	1	cpm	0.10	4.35	0.3	9.2	3.7E-15	1.2E-13	0.4%	2.0%	IH	CB
AS-0204	Perimeter	Downwind	PE04	60	8/25/21 7:40	8/25/21 17:13	573	3.4E+07	A	8/31/21	1	cpm	0.15	3.50	0.4	6.8	5.6E-15	8.9E-14	0.6%	1.5%	IH	CB
AS-0205	Perimeter	Upwind	PE03	60	8/26/21 7:10	8/26/21 17:13	603	3.6E+07	A	8/31/21	1	cpm	0.15	4.50	0.4	9.6	5.3E-15	1.2E-13	0.6%	2.0%	IH	CB
AS-0206	Perimeter	Downwind	PE04	60	8/26/21 7:08	8/26/21 17:07	599	3.6E+07	A	8/31/21	1	cpm	0.05	4.35	0.1	9.2	1.8E-15	1.1E-13	0.2%	1.9%	IH	CB
AS-0207	Perimeter	Upwind	PE03	60	8/27/21 6:40	8/27/21 17:13	633	3.8E+07	A	8/31/21	1	cpm	0.10	4.35	0.3	9.2	3.4E-15	1.1E-13	0.4%	1.8%	IH	CB
AS-0208	Perimeter	Downwind	PE04	60	8/27/21 6:38	8/27/21 17:07	629	3.8E+07	A	8/31/21	1	cpm	0.20	5.40	0.6	12.1	6.8E-15	1.4E-13	0.8%	2.4%	IH	CB
AS-0209	Perimeter	Upwind	PE03	60	8/30/21 7:35	8/30/21 17:01	566	3.4E+07	A	9/7/21	1	cpm	0.20	3.70	0.6	7.3	7.5E-15	9.7E-14	0.8%	1.6%	IH	CB
AS-0210	Perimeter	Downwind	PE04	60	8/30/21 7:40	8/30/21 17:07	567	3.4E+07	A	9/7/21	1	cpm	0.10	3.65	0.3	7.2	3.8E-15	9.5E-14	0.4%	1.6%	IH	CB
AS-0211	Perimeter	Upwind	PE03	60	8/31/21 7:40	8/31/21 16:45	545	3.3E+07	A	9/7/21	1	cpm	0.15	4.20	0.4	8.7	5.9E-15	1.2E-13	0.7%	2.0%	IH	CB
AS-0212	Perimeter	Downwind	PE04	60	8/31/21 7:45	8/31/21 17:01	556	3.3E+07	A	9/7/21	1	cpm	0.15	3.85	0.4	7.7	5.8E-15	1.0E-13	0.6%	1.7%	IH	CB

CFM to LPM Converter	
1 cfm = 28.316846592 lpm	
Enter cfm:	2.1
lpm:	60.0

Sample Types
Perimeter
Effluent

Counting Units
cnts
cpm

10 CFR 20 Appendix B Table 2 Effluent Concentrations
(listed in order of most to least restrictive radionuclide)

Alpha-Emitting Radionuclide	Retention Class	Column 1 Air (µCi/ml)
Th-232	W	4.E-15
Pu-239/240	W	2.E-14
Am-241	W	2.E-14
U-233/234	Y	5.E-14
U-235	Y	6.E-14
U-238	Y	6.E-14
Ra-226	W	9.E-13
(TBD)	(TBD)	(TBD)

Beta-Emitting Radionuclide	Retention Class	Column 1 Air (µCi/ml)
Sr-90	Y	6.E-12
Eu-152	W	3.E-11
Eu-154	W	3.E-11
Co-60	Y	5.E-11
Cs-137	D	2.E-10
(TBD)	(TBD)	(TBD)

Color Legend
No exceedance above regulatory criteria
Elevated however no exceedance above regulatory criteria
Exceedance above regulatory criteria

* Effluent concentration is a regulatory number from the NRC considered protective of the public